

MIL-S-36545A
29 March 1977
~~SUPERSEDING~~
MIL-S-36545
1 November 1967

MILITARY SPECIFICATION

SUPPORT, LITTER

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers one type and two sizes of litter supports suitable for use in supporting the standard litter.

1.2 Classification. The litter supports shall be of the following sizes as specified (see 6.2):

Size I - 31-1/2 inches high.
Size II - 20 inches high.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of the specification to the extent specified herein:

SPECIFICATIONS

FEDERAL

V-T-285 - Thread, Polyester.
TT-E-485 - Enamel, Semigloss, Rust-Inhibiting.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Headquarters, Defense Personnel Support Center, ATTN: Directorate of Medical Materiel, Code ATT, 2800 South 20th Street, Philadelphia, PA 19101, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6530

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PPP-B-585 - Boxes, Wood, Wirebound.
 PPP-B-601 - Boxes, Wood, Cleated-Plywood.
 PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner.
 PPP-B-636 - Boxes, Shipping, Fiberboard.

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MIL-F-495 - Finish, Chemical, Black, for Copper Alloy.
 MIL-C-496 - Clips, End Straps.
 MIL-W-530 - Webbing, Tape, Textile Cotton, General Purpose.
 MIL-C-5541 - Chemicals, Films.
 MIL-L-10547 - Liners, Case, and Sheet Overwrap; Water-Vaporproof, or Waterproof, Flexible.

STANDARDS

FEDERAL

FED-TEST METHOD

STD - 151 - Metals, Test Methods.
 FED-STD-595 - Colors.
 FED-STD-751 - Stitches, Seams, and Stitchings.

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MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
 MIL-STD-129 - Marking for Shipment and Storage.

DRAWING

Defense Personnel Support Center (DPSC)

20133 - Support, Litter, Folding, Aluminum.

(Copies of specifications, standards, and drawings required by suppliers in connection with specific procurement functions should be obtained as directed by the contracting officer.)

2.2 Other documents. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

COLOR ASSOCIATION OF THE UNITED STATES, INC.

United States Army Standard Color Card for the
Official Standardized Shades of Sewing Threads.

(Application for copies should be addressed to the Color Association of the United States, Inc. 200 Madison Avenue, New York, NY 10016.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

B26	Standard Specification for Aluminum Alloy Sand Castings.
B85	Standard Specification for Aluminum Alloy Die Castings.
B209	Standard Specification for Aluminum Alloy Sheet and Plate.
B210	Standard Specification for Aluminum Alloy Drawn Seamless Tubes.
B211	Standard Specification for Aluminum Alloy Bars, Rod and Wire.

(Application for copies should be addressed to the American Society for Testing and Materials; 1916 Race Street, Philadelphia, PA 19103.)

3. REQUIREMENTS

* 3.1 First article. When specified in the procurement document, the contractor shall furnish sample unit(s) for first article inspection and approval (see 4.1.2.1 and 6.2).

3.2 Materials.

* 3.2.1 Aluminum sheet. Aluminum sheet shall be alloy 6061, temper T4, conforming to ASTM B209.

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- * 3.2.2 Aluminum tubing. Aluminum tubing shall be alloy 6061, temper T6 conforming to ASTM B210.
- * 3.2.3 Aluminum bars, rods, and shapes. Aluminum bars, rods and shapes shall be alloy 6061 or 6062, temper T6 conforming to ASTM B211.
- * 3.2.4 Aluminum casting. Aluminum for sand casting shall be alloy 356 temper T6, conforming to ASTM B26. Tenzaloy may be used where indicated on the drawing. Aluminum for die casting shall be alloy 380 of ASTM B85. The die-cast hinge, if used, may be dimpled to facilitate construction.
- 3.2.5 Cotton webbing. Webbing shall conform to MIL-W-530. Webbing shall be dyed olive drab No. 7.
- * 3.2.6 Polyester thread. Polyester thread shall conform to type I, class 1, subclass B, size F of V-T-285. The thread color shall be olive drab, shade S-1 of U.S. Army Standard Color Card for Official Standardized Shades.
- * 3.2.7 Buckle. Buckle shall be two bar, tongueless type made of bronze alloy with a black oxide finish. As an alternate, a plated steel buckle with a black color shall be acceptable.
- 3.2.8 End clips. End clips shall conform to type I, brass, size 1 inch of MIL-C-496. Finish shall be black oxide conforming to MIL-F-495.
- * 3.3 Design. The litter support shall be a saw-horse type, capable of being folded into a compact configuration. The support shall have an integral securing strap to secure it in the folded condition.
- * 3.3.1 Construction. The supports shall be constructed in accordance with the applicable size indicated on DPSC Drawing 20133 and as specified herein. A pair of litter supports, when in use, shall be capable of supporting the standard litter, bearing a 400 pound load when tested as specified in 4.4.1. The weight of each support shall not exceed 7 pounds. The aluminum castings shall be secured to the horizontal member and legs by means of structural adhesive. The legs shall move easily when opening and folding. The feet of the opened unit shall rest flat on the floor. The spreader arm shall fit tightly and snugly against the leg when resting on the stop. The swivel assembly shall turn easily without interference. The litter support shall function properly and no parts shall come adrift after being tested as specified in 4.4.2. The securing strap shall be free of tears and cuts.

* 3.3.1.1 Structural adhesive. Parts to be bonded with structural adhesive shall be thoroughly cleaned and degreased prior to bonding. Adhesive shall be used in strict accordance with the adhesive manufacturer's instructions. Excess adhesive shall be removed from external surfaces prior to curing. The bond formed by the structural adhesive shall be stronger than the tubing or castings when tested as specified in 4.4.4.

3.3.1.2 Rivets. Rivets shall be neatly and securely set, and shall be free from cracks and other defects.

3.3.1.3 Stitching. Stitching shall be as shown on the drawing. All stitching shall be straight, conforming to FED-STD-751, and shall consist of type 301 stitches, not less than 8 evenly spaced stitches to the inch. Thread tension shall be properly maintained, so that the lock is formed in the middle of the material sewn.

3.3.1.4 End clips. End clips shall be firmly attached without cutting the webbing, which shall be inserted full depth and lie flat at place of entry.

* 3.4 Finish. All aluminum parts shall be thoroughly cleaned and chemically degreased. The parts then shall be given a chemical film conforming to MIL-C-5541 followed by a coat of zinc chromate primer and finally by a coat of baked-on olive drab semi-gloss enamel conforming to TT-E-485. Each coat shall be sprayed on and baked in high temperature ovens in accordance with the paint manufacturer's recommendations. Color shall be equal to semi-gloss No. 24087 of FED-STD-595. Scratching of the painted surface caused by normal set-up and folding of the support shall not be considered a defect.

* 3.5 Identification marking. Each support shall be marked permanently and legibly with the contract or purchase order number.

* 3.6 Workmanship. Workmanship shall be first class throughout. The litter supports shall be free from defects which detract from their appearance or may impair their serviceability.

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4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

* 4.1.1 Records. Records of examinations and tests performed by or for the contractor shall be maintained by the contractor and made available to the Government, upon the Government's request, at any time, or from time to time, during the performance of the contract and for a period of three years after delivery of the supplies to which such records relate.

4.1.2 Inspection. Inspection, as used in this specification, is defined as both examination (such as visual and auditory investigation without the use of special laboratory appliances or procedures) and testing (determination by technical means of physical and chemical properties) of the item.

* 4.1.2.1 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. First article inspection.
- b. Quality conformance inspection.

* 4.1.2.1.1 First article inspection. First article inspection shall be performed on the supports when a first article sample is required (see 3.1). This inspection shall include examination of 4.3 and tests of 4.4.

* 4.1.2.1.2 Quality conformance inspection. Quality conformance inspection shall include the examination of 4.3 and tests of 4.4.

4.1.3 Certificates of quality. Certificates of quality, supplied by the manufacturer of the materials may be furnished in lieu of actual performance of such testing by the contractor, provided lot identity has been maintained and can be demonstrated to the Government. The certificate shall include the name of the contractor, the contract number, the name of the manufacturer or supplier, the NSN, the Item Identification, the name of the component/material, the lot number, the lot size, the sample size, the date of testing, the test method, individual test results, and the specification requirements.

4.2 Sampling.

4.2.1 For examination. Sampling for examination shall be conducted in accordance with MIL-STD-105, and table I. The unit of product for sampling purposes shall be an individual support.

TABLE I. Sampling for examination.

	Inspection level	AQL (defects per hundred units)
For visual examination		
Major defects	II	1.0
Minor defects	II	4.0
For dimensional examination	S-1	2.5

4.2.2 For tests. Sampling for tests shall be conducted in accordance with MIL-STD-105 and table II. The acceptance number shall be zero for tests. The unit of product for sampling purposes shall be a pair of supports.

TABLE II. Sampling for tests

Component (Unit of product)	Characteristic	Requirement	Test procedure	Inspection level
Litter support	Load test	3.3.1	4.4.1	S-3
Litter support	Drop test	3.3.1	4.4.2	S-1
Litter support	Bond strength	3.3.1.1	4.4.4	1/

1/ One litter support shall be selected at random for test.

* 4.2.3 Raw materials. A sufficient quantity of each lot of each metal used in the manufacture of the litter supports shall be selected for chemical analysis.

4.3 Examination. The litter supports shall be examined to determine compliance with all requirements contained in this specification.

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* 4.3.1 Classification of defects. Examination shall be conducted in accordance with the classification of defects listed in table III. Examination shall not be restricted to the classified possible defects listed below.

TABLE III. Classification of defects.

Major	
101	Support not complete with all component parts.
102	Support cannot be opened.
103	Feet of assembled unit do not rest flat on floor.
104	Spreader arm does not fit tightly and snugly against leg when resting on stop.
105	Legs cannot be spread sufficiently to allow spreader arm to rest on stop.
106	Cotter pin not spread open.
107	Hinge retaining tube not properly flared at both ends.
108	Securing strap not properly attached to horizontal tube; backup plate not present.
109	Securing strap not free of tears.
110	Components not free of burrs and sharp edges.
Minor	
201	Stop for spreader arm not perpendicular to leg.
202	Moving parts bind; do not move freely.
203	Horizontal end plug and swivel end plug not free of sharp corners.
204	Finish not free of scratches, flaking, and blisters.
205	Cotter pin not inserted head up.
206	End clip and buckle not properly secured to strap.
207	Webbing of strap not free of frays.
208	Stitching securing buckle to strap not continuous and even.
209	Identification marking missing, incomplete, not permanent, or illegible.

* 4.3.2 Dimensional examination. The litter supports shall be examined for defects in dimensions. Any dimension not within the tolerance specified herein shall be classified as a defect.

4.3.3 Packaging inspection. The inspection of the unit packages, packing and marking for shipment and storage shall be in accordance with the quality assurance provisions of the applicable container specification and the marking requirements of MIL-STD-129.

4.4 Tests. Tests shall be conducted to determine compliance with specification requirements.

4.4.1 Load test. A board or boards, 20 inches wide, shall be placed at right angles to, and on top of, the crosspieces of two folding litter supports located about 6 feet apart. On top of the board, directly over each crosspiece, shall be placed a weight of 200 pounds. The weight shall be moved slightly in both the longitudinal and lateral directions. Any failure or bending of sections or loosening of rivets, shall be cause for rejection.

4.4.2 Drop test. The litter support, while folded and secured with the securing strap, shall be dropped in a vertical direction, five times on each end, from a height of 5 feet, measured from the lower end of the folded litter support, onto a concrete surface.

4.4.3 Chemical composition. Tests for chemical analysis shall be conducted in accordance with FED-TEST METHOD STD-151.

4.4.4 Bond strength. The support selected for test shall be disassembled and 3 casting to tubing bonds tested. The tubing shall be secured to prevent it from turning and the casting stressed in twisting motion about the longitudinal axis until failure of either the casting or tubing. Failure of the adhesive bond shall constitute failure of the test.

5. PACKAGING

5.1 Packaging. Packaging shall be level A or C as specified (see 6.2).

5.1.1 Unit of issue. One (1) pair of supports, of the size specified, constitutes one unit of issue.

5.1.1.1 Level A.

5.1.1.1.1 Unit package. Each support shall be completely wrapped in kraft paper. Each pair of supports (1 unit) shall be packaged in a box constructed in accordance with PPP-B-636, type CF, class domestic. Closure of box shall be as specified in the appendix of the box specification.

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5.1.1.2 Level C. Units shall be packaged in standard commercial containers of the size and kind commonly used, which will afford the degree of protection required for shipment and use of the product for its intended purpose.

5.2 Packing. Packing shall be Level A, B or C as specified see 6.2).

5.2.1 Level A. Four unit packages of size I or two unit packages of size II shall be packed in an exterior container designed for a type 2 load and constructed in accordance with PPP-B-585, class 3, style 3; PPP-B-601, overseas type; PPP-B-621, class 2; or PPP-B-636, class weather-resistant. Closure and strapping shall be as specified in the appendix of the applicable box specification.

5.2.1.1 Case liner. Each level A wood box shall be lined with a waterproof case liner conforming to MIL-L-10547. Closure and sealing shall conform to applicable paragraphs of appendix hereto. Case liner shall not be required for fiberboard boxes. Each fiberboard box shall be waterproofed as specified in the appendix of PPP-B-636.

5.2.2 Level B. Four unit packages of size I or two unit packages of size II, shall be packaged in an exterior container designed for a type 2 load and constructed in accordance with PPP-B-585, class 1, style 3; PPP-B-601, domestic type; PPP-B-621, class 1; or PPP-B-636, class domestic. Closure shall be as specified in the appendix of the applicable box specification. Closure of fiberboard boxes shall conform to method II as specified in PPP-B-636.

5.2.3 Level C. The subject commodity shall be packed in substantial commercial containers of the type, size, and kind commonly used for the purpose, so constructed as to insure acceptance and safe delivery by common or other carriers, at the lowest rate, to point of delivery called for in the contract or purchase order.

5.3 Marking. Each unit package and exterior container shall be marked as specified in MIL-STD-129.

6. NOTES

6.1 Intended use. Supports are intended for use by field medical units to support standard field litters at a height that protects the patient from ground moisture, mud, and cold.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents.

- a. Title, number and date of this specification.
- b. Selection of applicable levels of packaging and packing (see 5.1 and 5.2).
- c. Size required (see 1.2).
- d. When a first article is required (see 3.1, 4.1.2.1 and 6.3).

6.3 First article. When a first article is required, it shall be tested and approved under the appropriate provisions of 7-104.55 of Armed Services Procurement Regulation. The contract or purchase order specifies the quantity, procedure for delivery and other specific instructions for inspection and approval of the first article.

6.4 This specification covers the following items appearing in the Federal Supply Catalog:

<u>National Stock No.</u>	<u>Item Identification</u>	<u>Size</u>
6530-00-660-0034	SUPPORT, LITTER, Folding, Lightweight, 31-1/2 inches high	I
6530-00-935-4109	SUPPORT, LITTER, Folding, Lightweight, 20 inches high	II

6.5 Changes from previous issue. The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:
Army - MD
Navy - MS
Air Force - 03

Preparing activity:
DSA-DM

Project No. 6530-1418

FOLD

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